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D) if appropriate, non-destructive distillation of the bottom product from step C) in order to obtain a lubricating oil fraction of higher viscosity state from the higher boiling range which can be segregated, as needed, optionally under vacuum, by means of a subsequent distillative fractioning step;

E) extraction of the fraction or fractions in the form of lubricating oil fractions or boiling cuts of different viscosity states from step C) and optionally D) with N-methyl-2-pyrrolidone (NMP) and/or N-formylmorpholine (NMF) as extraction medium in order to obtain very high grade base oils whereby the extraction is executed in such manner that undesirable constituents are removed in an almost quantitative manner, and the contents of the polycyclic aromatic hydrocarbons (PAK) and polychlorinated biphenylenes (PCB) lies, respectively, below 1 mg/kg.

2. Method according to Claim 1, wherein the waste oils to be reprocessed are treated with concentrated watery alkaline solution as reagent in order to segregate interfering constituents.

3. Method according to Claim 2, wherein the alkaline solution is added during distillation according to step A).

4. Method according to Claim 2 wherein the alkaline solution is potassium hydroxide solution.

5. Method according to Claim 4, wherein the alkaline solution is approximately 5 to 50% potassium hydroxide solution.

6. Method according to Claim 5, wherein the feed (charge for extraction) is imparted an alkalinity reserve, which prevents the otherwise usual, partially even irreversible, acidulation of the reclaimed extraction medium.

7. Method according to Claim 1 wherein the distillation in step A) is performed at normal pressure or at slight under pressure of up to approximately 600 mbar and at a temperature of approximately 140 to 150°C.

8. Method according to claim 1 wherein the extraction is performed in an extraction column, by counter flow process.

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9. Method according to claim 1 wherein the extraction is performed in isothermal manner, at a temperature in the range of approximately 50 to 90°C.

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10. Method according to Claim 9, wherein an extract phase is cooled down and that the settling oil phase is again added to the feed.

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11. Method according to claim 1 wherein the extraction is performed with a temperature gradient, whereby the temperature is adjusted at the column head (run off raffinate) to approximately 50 to 90°C and at the column end (extract run-off) to approximately 10 to 50°C.

12. Method according to claim 1 wherein the waste oil to be reprocessed has a contents of polychlorinated biphenylenes (PCB) or PCB substitutes of up to approximately 250 mg/kg.

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13. Method according to claim 1 wherein the waste oil to be reprocessed has a contents of vegetable oil(s) of up to approximately 5%.

Please cancel claims 14 and 15.

Remarks

Applicants respectfully request that the foregoing amendments be entered prior to substantive examination of the application. These changes are submitted to eliminate the multiple dependent claims in the application.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this PRELIMINARY AMENDMENT is being deposited with the United States Postal Service as EXPRESS MAIL in an envelope numbered EL 852784402 US addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on May 3, 2001.

By: Georgeen B. George
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